



vicMIC A2B(I)

Vehicle Microphone for Spatial Audio Capture

The vicMIC A2B(I) vehicle microphone supports the A2B audio bus and allows for easy integration into commercial, emergency, and rail vehicles. It can be used either as a single microphone or in combination with multiple microphones to form a microphone array.

The microphone signals can be processed on the connected embedded platform using the latest algorithms from our vicPURE framework for spatial noise cancellation and speech enhancement. This allows disruptive noise to be specifically reduced and the microphone array to be dynamically aligned with the respective speaker. As a result, high speech intelligibility is achieved even in challenging acoustic environments.

The flat, unobtrusive integration into the headliner or dashboard opens up new possibilities for vehicle design. Compared to the gooseneck microphones commonly used in the industry, our arrays have no protruding components. This improves ergonomics, reduces mechanical stress, and extends service life.

The microphone signals, which are transmitted with minimal interference via the A2B bus, are processed centrally by a high-performance in-vehicle amplifier. This amplifier is also available as part of our evaluation kit.

PRODUCT FEATURES

- A2B-compatible automotive microphone for configuring arrays of up to 8 microphone nodes
- High sensitivity and low batch-to-batch variation thanks to the use of MEMS microphones and individual testing
- Reliable communication and power supply via the efficient 2-wire A2B bus (Analog Devices) with a range of up to 40 m
- High speech signal quality with minimal audio latency
- E24-certified for use in vehicles
- Easy plug-and-play integration into existing communication infrastructures
- Visually unobtrusive installation behind surfaces or in the headliner

APPLICATIONS

- For distributed microphone arrays with beamforming for static or dynamic source localisation
- Communication systems and infotainment solutions in vehicle interiors and driver's cabs
- Emergency call points and use in environments with high levels of ambient noise, where high speech intelligibility is required
- Intercom systems and control rooms in industrial settings
- Voice-controlled machines and industrial plants

vicMIC A2B(I) IN-CAR MICROPHONE

The vicMIC A2B(I) is a vehicle-compatible digital microphone designed for installation on a digital A2B audio bus. Multiple microphones can be networked via a 2-wire connection and connected digitally to a central processing unit, such as an infotainment unit.

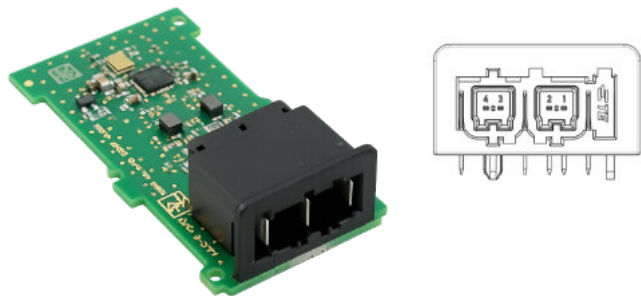
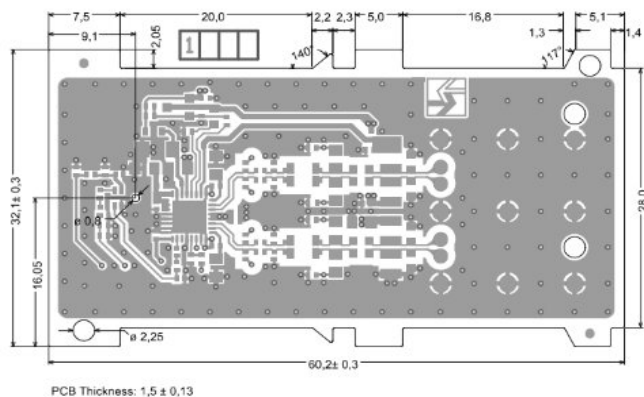


Fig. 1:
left: vicMIC A2B(I) in-car microphone;
right: connector pins (front)

DIMENSIONS



SPECIFICATION

Operating temperature:	-40 °C ... 85 °C
Operating voltage:	4,2..7,5..9 VDC
MEMS microphone:	Digital MEMS microphone
SNR (Signal to Noise):	72 dB SNR
Max. SPL:	128 dB AOP
Connectors	MATenet 2-port connector, female
Conformity:	UN ECE R10 (E ₂₄) (Ireland)
Current consumption:	ca. 16 mA (last node 10 mA)
Housing:	Plastic, custom-made

DISTRIBUTED MICROPHONE ARRAY

The A2B audio bus enables the flexible installation of multiple A2B-compatible microphones within a vehicle cabin. The audio signals are transmitted to the bus master without interference and in synchronisation with the bus, where they are further processed. By combining and filtering multiple microphone signals, sound and speech sources can be detected and spatially localised. Adaptive beamforming also enables the microphone array to be precisely aligned and allows for dynamic tracking of a speaker.

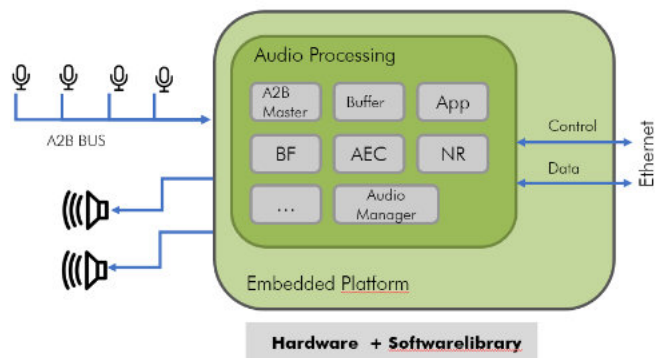


Fig. 2: System concept for the distributed array

EVALUATION KIT



Fig. 3: Evaluation kit with vicMIC A2B(I) microphones

FIND OUT MORE

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